AMENDMENTS

Please amend the application as follows:

In the Specification:

Please amend Paragraph [0006] as follows:

An exemplary graphical display system in accordance with one embodiment of the present invention comprises memory and a texture mapper. The memory [[~~for~~]] stores a parametric texture map (PTM) and a non-parametric texture map (non-PTM). The texture mapper is configured to selectively apply, based on a one or more criteria, the PTM or the non-PTM to a pixel of the graphical object.

Please amend Paragraph [0029] as follows:

In this regard, FIG. 1 depicts a texture map generating and editing system 30 in accordance with a preferred embodiment of the present invention. As shown by FIG. 1, the system 30 preferably comprises a texture map manager 32 for generating and editing a parametric texture map (PTM) 34. As will be described in more detail hereafter, each texel of the PTM 34 preferably comprises at least one polynomial texture equation that allows the texel's luminosity value to be calculated as a function of light position or some other parameter. As used herein, a texel's "luminosity value" refers to a value indicative of at least the texel's brightness. In this regard, a texel's luminosity value may only indicate brightness or may indicate another color parameter combined with the texel's brightness. For example, a luminosity value may be a value that is indicative of a texel's brightness, independent of the

texel's color, or a luminosity value, in another example, may be a value indicative of both color and brightness.

Please amend Paragraph [0051] as follows:

A preferred embodiment of the graphical display system 140 of FIG. 9 comprises one or more conventional processing elements 146, such as a digital signal processor (DSP) or a central processing unit (CPU), that communicate to and drive the other elements within the system 140 via a local interface 151, which can include one or more buses. Furthermore, an input device 154, for example, a keyboard or a mouse, can be used to input data from a user of the system 140, and an output device [[~~156~~]] 158, for example, a screen display or a printer, can be used to output data to the user. The adapter 152 is coupled to and renders to a display device 156.

Please amend Paragraph [0051] as follows:

During operation, the graphics adapter 142 preferably receives graphical data (*e.g.*, primitives) from the graphics application 141 and renders the graphical data to the ~~output~~ display device 156. When a graphical object is being rendered by the graphics adapter 142, the texture mapper 143 may apply the texture defined by the PTM 34 to the surface of the graphical object. For illustrative purposes, assume that a graphical object being rendered by the graphics adapter 142 has a surface, referred to hereafter as the "textured surface," to which the texture of the PTM 34 is to be applied.

Please amend Paragraph [0082] as follows:

After color component values are assigned to the pixel in block 286 or 292, the pixel is rendered by the graphics adapter 142. The ~~output~~ display device 156 then displays the pixel based on the color component values assigned to the pixel by the texture mapper 143.

Please amend Paragraph [0088] as follows:

For example, if the red color component is selected in block 446, then the manager 32 preferably retrieves the red color component of the measured luminosity value ($L_{measured}$). Therefore, the luminosity equation [[~~later~~]] generated in block 467 and stored in block 468 after a "yes" determination in block 457 preferably corresponds to a representation of the luminosity behavior of the selected color component only. As depicted by block 469, the aforedescribed process for defining and storing a color component luminosity equation for the selected texel is repeated for each different color component of the selected texel. Further, as shown by block 472, the process depicted by FIG. 14 continues until color component luminosity equations have been defined for all texels. Moreover, once the process depicted by FIGS. 13 and 14 is completed, each texel preferably comprises color component equations (L_{red}, L_{green}, and L_{blue}). Note that changes to the aforedescribed algorithm depicted by FIGS. 13 and 14 or different algorithms may be implemented to generate a PTM 34 in other examples.

Please amend Paragraph [0094] as follows:

After color component values are assigned to the pixel in block 543 or 551, the pixel is rendered by the graphics adapter 142. The ~~output~~ display device 156 then displays the pixel based on the color component values assigned to the pixel by the texture mapper 143 in block 543 or 551.

Please amend Paragraph [0111] as follows:

To better illustrate the foregoing, assume that a seat of a chair (not shown) is covered with a particular fabric. A graphics application 141 (FIG. 9) may be configured to generate graphical data defining an image of the aforementioned chair, and the texture mapper 143 may be configured to render such an image to the display device 156. In such an example, the memory [[~~142~~]] 139 may store a non-PTM 630 that defines a texture of the fabric and a PTM 34 that also defines a texture of the fabric.

Please amend Paragraph [0119] as follows:

For example, the texture mapper 143 or the texture map manager 32 may generate the non-PTM 630 by substituting the value of zero for u and v in each luminosity equation of the PTM 34. The resulting values may be stored in memory [[~~142~~]] 139 as the non-PTM 630. Thus, each texel value in the non-PTM 630 is a constant calculated by evaluating, for a particular set of u and v values, a luminosity equation of a corresponding texel in the PTM 34. Note that substituting the value of zero for u and v into a luminosity equation has the effect of evaluating the luminosity equation when the angle of incidence of a light source is perpendicular to the texture surface defined by the non-PTM 630.

In the Claims:

Please amend the claims as indicated hereafter.

1. (Currently Amended) A graphical display system, comprising:

memory for storing a parametric texture map (PTM) and a non-parametric texture map (non-PTM), the PTM having texels that vary based on a parameter and the non-PTM having texels that are constant relative to the parameter; and

a texture mapper configured to selectively render, based on one or more criteria, a PTM version or a non-PTM version of [[~~the~~]] a graphical object, wherein the PTM version is based on the parametric texture map and the non-PTM version is based on the non-parametric texture map.

2. (Original) The system of claim 1, wherein the criteria comprises a distance between a user's viewpoint and the graphical object.

3. (Original) The system of claim 1, wherein the criteria comprises a viewing angle for the graphical object.

4. (Original) The system of claim 1, wherein the criteria comprises an amount of visible surface area for the graphical object.

5. (Original) The system of claim 1, wherein the criteria comprises a level of detail value.

6. (Original) The system of claim 5, further comprising a graphics application configured to generate, based on said level of detail value, primitives defining said graphical object and to transmit said primitives to said texture mapper.

7. (Original) The system of claim 1, wherein the texture mapper is configured to perform a comparison between a threshold and a value indicative of a user's viewpoint.

8. (Original) The system of claim 7, wherein the texture mapper is configured to select one of the versions for rendering based on the comparison.

9. (Currently Amended) ~~The system of claim 7,~~ A graphical display system, comprising:

memory for storing a parametric texture map (PTM) and a non-parametric texture map (non-PTM); and

a texture mapper configured to perform a comparison between a threshold and a value indicative of a user's viewpoint and to selectively render, based on one or more criteria, a PTM version or a non-PTM version of a graphical object, wherein the PTM version is based on the parametric texture map and the non-PTM version is based on the non-PTM,

wherein the value is weighted based on at least two of a group consisting of: a distance between the user's viewpoint and the graphical object, a viewing angle of the graphical object, and an amount of visible surface area of the graphical object.

10. (Currently Amended) A graphical display system, comprising:

memory for storing a parametric texture map (PTM) and a non-parametric texture map (non-PTM), the PTM having texels that vary based on a parameter and the non-PTM having texels that are constant relative to the parameter; and

a texture mapper configured to selectively apply, based on ~~a~~ one or more criteria, the PTM or the non-PTM to a pixel of [[~~the~~]] a graphical object.

11. (Original) The system of claim 10, wherein the texture mapper is configured to select one of the texture maps and to apply the selected texture map to the pixel based on a comparison of a threshold and a value indicative of a user's viewpoint.

12. (Original) The system of claim 11, wherein the value is indicative of a distance between the user's viewpoint and the graphical object.

13. (Original) The system of claim 11, wherein the value is indicative of a viewing angle for the graphical object.

14. (Original) The system of claim11, wherein the value is indicative of an amount of visible surface area for the graphical object.

15. (Currently Amended) ~~The system of claim 11,~~ A graphical display system, comprising:

memory for storing a parametric texture map (PTM) and a non-parametric texture map (non-PTM); and

a texture mapper configured to selectively apply, based on a comparison of a threshold and a value indicative of a user's viewpoint, the PTM or the non-PTM to a pixel of a graphical object,

wherein the value is weighted based on at least two of a group consisting of: a distance between a user's viewpoint and the graphical object, a viewing angle of the graphical object, and an amount of visible surface area of the graphical object.

16. (Original) The system of claim 11, further comprising a graphics application configured to generate, based on said value, primitives defining said graphical object and to transmit said primitives to said texture mapper.

17. (Original) The system of claim 11, wherein the non-PTM is derived from the PTM.

18. (Currently Amended) A computer readable-medium having a program, the program comprising:

logic for determining a value indicative of a user's viewpoint;

logic for comparing the value to a threshold; and

logic for selecting, based on the comparing logic, between a parametric texture map (PTM) and a non-parametric texture map (non-PTM) and applying the selected texture map to a

pixel of [[~~the~~]] a graphical object, wherein texels of the PTM are defined by variable expressions and texels of the non-PTM are constant.

19. (Currently Amended) A graphical display system, comprising:

means for determining a value indicative of a user's viewpoint;

means for comparing the value to a threshold; and

means for selectively applying, based on the comparing means, a parametric texture map (PTM) and a non-parametric texture map (non-PTM) to a pixel of [[~~the~~]] a graphical object, wherein texels of the PTM are defined by variable expressions and texels of the non-PTM are constant.

20. (Currently Amended) A graphical display method, comprising:

displaying a graphical object; and

selectively applying, based on one or more criteria, a parametric texture map (PTM) or a non-parametric texture map (non-PTM) to a pixel of the graphical object, the PTM having texels that vary based on a parameter and the non-PTM having texels that are constant relative to the parameter.

21. (Original) The method of claim 20, further comprising deriving the non-PTM from the PTM.

22. (Original) The method of claim 20, wherein the criteria comprises a value indicative of a user's viewpoint, the method further comprising performing a comparison between the value and a threshold.

23. (Original) The method of claim 22, wherein the selectively applying is based on the comparison.

24. (Currently Amended) ~~The method of claim 22, further comprising~~ A graphical display method, comprising:

displaying a graphical object;

selectively applying, based on a value indicative of a user's viewpoint, a parametric texture map (PTM) or a non-parametric texture map (non-PTM) to a pixel of the graphical object;

performing a comparison between the value and a threshold; and

weighting the value based on at least two of a group consisting of: a distance between the user's viewpoint and the graphical object, a viewing angle of the graphical object, and an amount of visible surface area of the graphical object.

25. (Original) The method of claim 22, further comprising:

generating primitives defining the graphical object; and

determining, based on the value, a number of primitives to be generated via the generating.

26. (Currently Amended) A graphical display method, comprising:

displaying a graphical object;

selecting between a parametric texture map (PTM) and a non-parametric texture map (non-PTM) based on a value indicative of a user's viewpoint, wherein texels of the PTM are defined by variable expressions and texels of the non-PTM are constant; and

applying the selected texture map to at least a portion of a surface of the graphical object.

27. (Original) The method of claim 26, further comprising deriving the non-PTM from the PTM.

28. (Original) The method of claim 26, further comprising comparing the value to a threshold, wherein the applying is based on the comparing.

29. (Original) The method of claim 28, wherein the value is indicative of a distance of the user's viewpoint and the graphical object.

30. (Original) The method of claim 28, wherein the value is indicative of a viewing angle for the graphical object.

31. (Original) The method of claim 28, wherein the value is indicative of an amount of visible surface area for the graphical object.

32. (Original) The method of claim 28, further comprising:

generating primitives defining the graphical object; and

determining, based on the value, a number of primitives to be generated via the generating.

33. (New) The method of claim 26, wherein the expressions vary based on light position.

34. (New) The system of claim 1, wherein the parameter is light position.

35. (New) The method of claim 20, wherein the parameter is light position.